[5954]-204

B.B.A. (CA)

CA-204: RELATIONAL DATABASE MANAGEMENT SYSTEM

(2019 Pattern) (Semester - II)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates :

1) *All questions are compulsory.*
2) *Figures to the right indicate full marks.*

Q1) **Attempt any EIGHT of the following (Out of TEN) :**   **[8 × 2 = 16]**

a) Define RDBMS?

b) Define Database?

c) Write syntax for Nested if statement in PLSQL with example.

d) What is PLSQL Block?

e) Define serializability?

f) What is schedule? List types of schedule

g) What is transaction?

h) What is procedure?

i) What is trigger?

j) Define upgrading and downgrading?

Q2) **Attempt any FOUR of the following (Out of FIVE) :**   [4 × 4 = 16]

  a) Explain difference between DBMS and RDBMS in detail.

  b) What is deadlock? Explain methods to prevent deadlock.

  c) What is exception handling? Explain predefined exceptions.

  d) Explain two-phase locking protocol in detail.

  e) Explain RDBMS packages in detail.

Q3) **Attempt any FOUR of the following (Out of FIVE) :**   [4 × 4 = 16]

  a) What is function? Explain with an example.

  b) List and explain properties of transaction.

  c) Explain % type and % row type with an example.

  d) Explain failure classification in detail.

  e) What is log? Explain log based recovery.

Q4) **Attempt any FOUR of the following (Out of FIVE) :**   [4 × 4 = 16]

  a) Consider the following relational database.
      Customer (cno, cname, city.
      Account (ano, acc-type, balance, cno)
      Define a trigger that restricts insertion or updation of account having
      balance less than 100.

  b) Consider the following transaction. Give two non-serial schedules that
      the serializable:

T1	T2
Read(X)	Read(Z)
X = X + 100	Read(X)
Write (X)	X= X –Z
Read (Y)	Write (X)
Read(Z)	Read(Y)
Y=Y+ Z	Y = Y –100
Write(Y)	Write(Y)

c) Following is the list of events in an interleaved execution of set T1, T2, T3 and T4. Assuming 2PL (Two Phase Lock). Is there a deadlock? If yes, which transactions are involved in deadlock?

Time	Transaction	Code
t_1	T1	Lock(A,X)
t_2	T2	Lock(B,S)
t_3	T3	Lock(A,S)
t_4	T1	Lock(C,X)
t_5	T2	Lock(D,X)
t_6	T1	Lock(D,S)
t_7	T2	Lock(C,S)

d) Consider following relational database
Doctor (dno, dname, dcity)
Hospital (hno, hname, hcity)
Doct-Hosp (dno, hno)
Write a function to return count of number of hospitals located in Mumbai City

e) Consider the following relational database:
Customer (cno, cname, city)
Loan (lno, lamt, no_of_years, cno)
Write a procedure to display total loan amount from Mumbai City.

Q5) Write a short note on ANY TWO of the following (Out of THREE) :
$[2 \times 3 = 6]$

a) Functions in PLSQL.

b) Concurrent Execution.

c) Control Statements in PLSQL.

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